WE CLAIM AS OUR INVENTION:

1.   A medical system architecture for interactive transmission and progressive representation of compressed image data of multi-component images, comprising:

at least one imaging modality for acquiring image data representing examination images;

for each imaging modality, a computer workstation associated therewith for processing the image data acquired by the associated imaging modality;

a communication network in communication with said computer workstation for transferring said examination images, after processing in the computer workstation, to locations remote from said computer workstation;

a storage device in communication with said communication network for storing said examination images;

at least one further workstation in communication with said communication network for post-processing the examination images processed in said computer workstation;

a compression device in communication with said computer network for compressing and organizing the image data representing said examination images and for storing the compressed data in packets, as packetized image data, with parameters linked to the respective packets defining permissible access to the respective packets; and

a decompression device in communication with said communication network for decompressing the packetized image data packet-by-packet dependent on a request from said further workstation, for causing multi-component images to be generated at said further workstation with progressive parameters.

2. A medical system architecture as claimed in claim 1 wherein said compression device generates parameters, as said parameters respectively linked with said packets, selected from the group consisting of a parameter specifying an image resolution level, a parameter specifying an image quality level, a parameter specifying a region of interest, a parameter specifying a slice thickness, and a a parameter specifying a component index, and wherein said decompression device employs said parameters to generate said multi-component images with at least one of a progressive image resolution, progressive image quality levels, consistent region of interest presentation, and variable slice thickness, respectively.

3. A medical system architecture as claimed in claim 1 wherein said decompression device generates supplementary information and requests and transmits said supplementary information and requests to said further workstation together with the decompressed packetized image data.

4. A medical system architecture as claimed in claim 1 wherein said decompression device transmits a total quantity of data in compressed state, with said parameters, to said further workstation.

5. A medical system architecture as claimed in claim 1 wherein said decompression device transmits an entire file for an image in compressed state to said further workstation.

6.   A medical system architecture as claimed in claim 1 wherein said decompression device transmits information identifying packets that have already been sent and parameters that have already been transmitted in advance to said further workstation.

7.   A medical system architecture as claimed in claim 1 wherein said decompression device generates and communicates a message to said further workstation after conclusion of transferring a consistent set of said image data.

8.   A medical system architecture as claimed in claim 7 wherein said decompression device generates and transmits a render request as said message.

9.   A medical system architecture as claimed in claim 7 wherein said decompression device generates and transmits a storage recommendation as said message.

10.   A medical system architecture as claimed in claim 1 wherein said further workstation has user rights associated therewith, and wherein said decompression device transmits the decompressed packetized image data, or portions thereof, to said further workstation dependent on said user rights.

11.   A method for operating a medical system architecture having at least one imaging modality for acquiring image data representing examination images, a computer workstation associated with each imaging modality for processing the image data acquired by that imaging modality, a communication network in communication with said computer workstation for transferring said examination images to a location remote from said computer workstation, a device for storing said examination images in communication with said communication network, and a further workstation in communication with said communication network for post-

processing the examination images processed by the computer workstation, said method comprising the steps of:

generating raw data of medical multi-component images using said imaging modality, as said image data;

compressing said raw data to generate compressed image data;

organizing and storing said compressed image data in packets and linking respective parameters to the packets designating accessibility to the respective packets;

transferring the compressed image data to a decompression location; and

at said decompression location, decompressing the compressed image data to form multi-component images with progressive reproduction dependent on said parameters.

12. A method as claimed in claim 10 comprising entering requests into said further workstation about specific parameters associated with said image data in said packets.

13. A method as claimed in claim 10 wherein said further workstation has user rights associated therewith, and comprising analyzing said parameters to determine whether said decompressed image data can be presented at said further workstation dependent on said user rights.

14. A method as claimed in claim 10 comprising additionally transmitting supplementary information and requests from said decompression location to said further workstation.

15.   A method as claimed in claim 10 comprising selecting said parameters from the group consisting of a parameter defining progressive image resolution, a parameter defining progressive image quality levels, a parameter identifying region of interest consistency, and a parameter designating a variable slice thickness.